PATENT ABSTRACTS OF JAPAN

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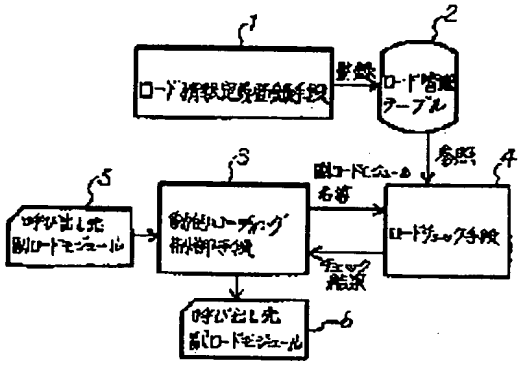
(54) DYNAMIC LOADING CONTROLLER

(57)Abstract:
PURPOSE: To make possible loading only a proper module by providing information for controlling whether or not a sub-load module is the module suitable to be loaded to a main memory in a load management table.
CONSTITUTION: A load information definition registering means 1 registering load information for controlling the loading of an application program (sub-load module), a load management table 2 storing load information, a dynamic loading control means 3 and a sub-load module load checking means 4 are provided. Then, the dynamic loading control means 3 judges whether or not loading is already executed to the main memory as against the loading request of the sub-load module, requests checking to the load checking means 4 whether or not the sub-load module meets a loading condition unless loading is not executed to the main memory and dynamically executes loading to the load module when the result of checking is loading possible.



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CLAIMS

[Claim(s)]
[Claim 1] A load information definition registration means to register the load information which controls loading of an application program (subload module), The load managed table which stores the load information which controls this loading, If it judges whether it is already loaded to main memory to the loading demand of the call place secondary load module from a call former vice load module and said subload module is not loaded A load check means is asked to confirm whether this subload module fulfills loading conditions. The dynamic loading control means which performs loading of said subload module for the check result from this load check means when loading is possible to origin, Although the request from said dynamic loading control means is received and loading is carried out with reference to said load managed table The dynamic loading control unit characterized by consisting of load check means to confirm whether to be a proper subload module and to notify a check result to said dynamic loading control means.
[Claim 2] The dynamic loading control unit according to claim 1 characterized by said load managed table consisting of a subload module name, attribute information which shows whether it is supposed that it is improper whether loading is made possible, information which shows the class of loading conditions, and information which showed the contents of the actual conditions.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] In case this invention carries out loading of the application program (subload module) to main memory dynamically in a computer system, it relates to the dynamic loading control unit which manages control information of loading.
[0002]
[Description of the Prior Art] Conventionally, the managed table and load counter which manage whether loading of the applicable program is carried out to main memory were formed as indicated by JP,60-252973,A as a method of the dynamic-loading control which carries out loading of the program for the purpose of processing to main memory, and loading only of the case of non-loading was carried out by confirming whether loading has already been carried out.
[0003]
[Problem(s) to be Solved by the Invention] However, since only the information which shows whether the program which carries out loading is load ending at main memory by the conventional dynamic loading control was managed, when a user's empty capacity of the case of the right of use of the library where the applicable program is stored of being contrary, or main memory was insufficient, all the things of non-loading were loaded by the program which had [except] the loading demand.
[0004] For this reason, when fine control of the program which carries out loading was not able to be performed, loading of the unjust program might be carried out dynamically, and it might perform, and there was a problem of security on the operational administration of a system.
[0005]
[Means for Solving the Problem] A load information definition registration means to register the load information which controls loading of an application program (subload module), The load managed table which stores the load information which controls this loading, If it judges whether it is already loaded to main memory to the loading demand of the call place secondary load module from a call former vice load module and said subload module is not loaded A load check means is asked to confirm whether this subload module fulfills loading conditions. The dynamic loading control means which performs loading of said subload module for the check result from this load check means when loading is possible to origin, A load check means to confirm whether to be a proper subload module although the request from said dynamic loading control means is received and loading is carried out with reference to said load managed table, and to notify a check result to said dynamic loading control means is included.
[0006]
[Example] This invention is explained with reference to a drawing.
[0007] Drawing 1 is the block block diagram of this invention.
[0008] A load information definition registration means 1 to register the load information by which this invention controls loading of an application program (subload module), The load managed table 2 which stores the load information which controls this loading, The dynamic loading control means 3 which controls dynamically loading of the call former vice load module

5 to the call place secondary load module 6, Although the request from this dynamic loading control means 3 is received and loading is carried out with reference to the load managed table 2 It consists of subload module load check means 4 to confirm whether to be a proper subload module and to notify a check result to the dynamic loading control means 3. If it judged whether the dynamic loading control means 3 would already be loaded to main memory to the loading demand of a subload module here and was not loaded to main memory yet, as a result of asking the load check means 4 to confirm whether the subload module fulfills loading conditions and receiving the check result from this load check means 4, when loading is possible, loading of this subload module is dynamically carried out to main memory.

[0009] Drawing 2 is the example of a load information definition of a subload module.

[0010] The example 11 of a definition shows that loading of the subload module of "ABC" is possible for the head of a subload module name here.

[0011] The example 12 of a definition shows that loading of the double digits of the last [head / of a subload module name] in "DEFGHI" is possible for the subload module of 01 to 55.

[0012] The example 13 of a definition shows that loading of the head of a subload module name is improper for the subload module of "Z."

[0013] The head of a subload module name is "X", and the example 14 of a definition shows that loading of the creation date of a subload module is improper for the subload module on and after January 1, 94.

[0014] The head of a subload module name is "Y", and the example 15 of a definition shows that loading of the refix date of a subload module is improper for the subload module by January 1, 95.

[0015] Drawing 3 is the example which registered into the load managed table of a subload module the load information definition of the subload module shown by drawing 2 .

[0016] this load managed table 2 consists of contents 34 of a condition which showed the contents of the subload module name 31, the attribute 32 "possible: — E"improper:" D" which shows whether it is supposed that it is improper whether loading is made possible, the conditions 33 (0:condition nothing, a numerical limit of an N:secondary load-module name, the conditions of C:creation data, R: conditions of an updating date) which show the class of loading conditions, and the actual conditions.

[0017] This invention needs to register load information required in order to control loading of a subload module in advance from the load information definition registration means 1, and needs to store it in the load managed table 2.

[0018] Next, the processing actuation which registers the load information which controls loading of a subload module is explained using the flow chart of drawing 4 from the load information definition registration means 1 of this invention.

[0019] The load information definition registration means 1 receives the input of a load information definition of a subload module as shown in drawing 2 from the input device of a terminal etc. (step 41).

[0020] Next, after analyzing the load information definition of this subload module (step 42) and securing the entry of the load managed table 2 (step 43), the subload module name 31, an attribute 32, conditions 33, and the contents 34 of a condition are registered into the entry of the load managed table 2 (step 44).

[0021] The flow chart of drawing 5 is used for below, and load check processing of a subload module is explained to it.

[0022] If there is a call demand of this subload module to another subload module (call place secondary load module 6) while performing a certain subload module (call former vice load module 5), the dynamic loading control means 3 will confirm whether the call place secondary load module 6 is loaded on main memory. Nothing will be done if already loaded to main memory. If not loaded to main memory yet, the load check means 4 is asked to confirm whether the call place secondary load module 6 fulfills loading conditions.

[0023] A load check means 4 by which this request was received retrieves the load information on the call place secondary load module 6 of relevance (a subload module name,

creation data, updating date) for an entry in order with reference to reception (step 51) and the load managed table 2 from the dynamic loading control means 3 (step 52).
[0024] If an entry does not exist, it is judged that loading is improper for the call place secondary load module 6 of relevance, and processing is ended as an activation error (steps 53 and 54).
[0025] When an entry exists, the condition comparison of the subload module name 31 in an entry, an attribute 32, conditions 33, and the contents 34 of a condition is carried out with the load information on the call place secondary load module 6 of relevance (step 55). Consequently, when conditions are in agreement, load authorization is issued and a check result is notified to the dynamic loading control means 3 noting that loading of the call place secondary load module 6 of relevance is possible (steps 55, 56, and 57). If not in agreement, the processing which carries out the condition comparison of the following entry similarly is repeated until an entry is lost.
[0026]
[Effect of the Invention] It becomes possible to perform a load check, if loading of the applicable secondary load module is not carried out yet, and to carry out loading only of the suitable subload module, when a load demand starts by preparing the information which controls whether this invention is the subload module which may carry out loading to main memory in a load managed table as explained above.
[0027] For this reason, a user's load is also mitigated while the dependability of a system improves, since it is lost that loading of the inaccurate subload module is carried out dynamically, and it is performed.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block block diagram of this invention.
[Drawing 2] It is the example of a load information definition of a subload module.
[Drawing 3] It is the example of the load managed table of a subload module.
[Drawing 4] It is the flow chart of registration processing of a load information definition of a subload module.
[Drawing 5] It is the flow chart of load check processing of a subload module.
[Description of Notations]
1 Load Information Definition Registration Means
2 Load Managed Table
3 Dynamic Loading Control Means
4 Load Check Means
5 Call Former Vice Load Module
6 Call Place Secondary Load Module

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